

METHOD FOR QUANTITATIVE VIDEO-MICROSCOPY AND ASSOCIATED  
SYSTEM AND COMPUTER SOFTWARE PROGRAM PRODUCT

ABSTRACT OF THE DISCLOSURE

1057739-114432  
A method of determining an amount of at least one molecular species in a sample from an image of the sample captured by an image acquisition device is provided, each molecular species being indicated by a dye. A dye space representation of a plurality of dyes is formed by orthogonally adding the correspondence tables of the dyes, each  
5 correspondence table having a plurality of normalized RGB triplets and incrementally extending from 0% to 100% transmittance. The dye space representation has one dimension for each dye and provides a reference model for a combination of the plurality of dyes. Each pixel of an image of the sample stained with the combination of the plurality of dyes is compared to the reference model, each pixel having a color defined by  
10 an RGB triplet, so as to determine an optimal combination of normalized RGB triplets from the respective correspondence tables of the dyes producing the color of the respective pixel. An artificial image of the sample is then formed from the normalized RGB triplets for each dye as determined from the optimal combination. The artificial image thereby indicates a distribution of the respective dye over the sample image and  
15 facilitates determination of the amount of the corresponding molecular species. Associated methods, systems, and computer software program products are also provided.